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The Impact of Accounting Education Research

Alan Sangster, Tim Fogarty, Greg Stoner, and Neil Marriott

Abstract

This paper presents an exploratory study into the nature and patterns of usage of accounting education research. The study adopts the most accessible metric, *Google Advanced Scholar* citations to analyse the impact of research published in the six principle English language accounting education journals. The analysis reveals a global readership for these journals but evidence of relatively low citation levels. However, papers tended to be cited more than expected in cross-disciplinary education journals, discipline-specific education journals, and non-education journals. Guidance is offered to authors seeking to maximise the impact of their research and issues of concern are identified for editors and publishers. This is the first paper to look beyond content at the usefulness of research in accounting education as indicated by citations. In doing so, it contributes to the current debate on the quality of this research, and of research in accounting and finance in general.

Keywords: accounting education, citations, impact factors, pedagogic research

INTRODUCTION

This paper investigates the nature and patterns of usage of accounting education research in order to inform the debate on the value of this field, particularly in terms of its impact; and to provide practical advice to the academy. In doing so, it contributes to the current debate on the quality of this research – see, for example, McGuigan (2015) and Sangster (2015) – and of research in accounting and finance in general. As such, it should be of interest to all accounting faculty with an interest in publishing or reading scholarship on accounting education.

When considering the impact of published work in any field of education, be it research, teaching cases, or instructional materials, it is important to remember that for educational research the most important impact is not the impact on the dialogue of the academy but on the dialogue in the classroom. Much of the impact of this work will, therefore, never be reported in publicly available outlets. Good education scholarship has value in its use and implementation, which makes the devaluation of teaching cases and classroom resources in some surveys of work in this area (as reported by Marriott *et al.*, 2014) mystifying at the very least, and misguided at best.

While impact in the classroom is of immense importance for faculty and students, it is the impact of their published output upon the research community which is becoming increasingly critical in terms of the effect that perceptions of its quality has upon their employment, tenure, promotion, and workload. As a surrogate for ‘quality’, universities, business schools, and departments are turning increasingly towards the use of journal ranking lists most of which are either constructed using citation analysis or informed by it. This situation represents a major change for the humanities and social sciences from the previously dominant system of peer review but there are clear exceptions, such as the Australian ERA journal ranking list which was subject to major consultation with representatives of

the social sciences research community prior to its finalisation (Pontille & Torny, 2010). However, such adjustment processes are very much a minor part of the majority of such exercises and even that particular rankings list was abandoned by the body that created it which, in a clear instance of the application of capture theory, elected instead to use a rankings list established by the community which would apply it, the Australian Business Deans Council.

Current examples of the rankings lists prepared with a focus upon citations used in this drive to identify the impact of published output include the UK Association of Business Schools' *ABS Academic Journal Quality Guide* (Kelly *et al.*, 2009, p. 16; ABS, 2010), Harzing's (2007) *Publish or Perish* composite journal ranking list, and the Australian Business Deans Council *ABDC journal rankings list* (ABDC, 2013). Use of the journal rankings generated by such ventures has gone beyond their use by universities in assessing the research of their staff. In a number of countries, they are being used by governments to inform decisions concerning university funding (Pontille & Torny, 2010), in some cases using journal rankings based entirely on citations, such as the *Thomson Reuters SSCI*¹ and *SCOPUS SCImago*². It is therefore of importance to faculty that they are aware of the level of citations their publications might be expected to receive in a particular outlet. It is also of importance to journal editors to know the extent to which the papers they publish are cited and, in particular, the nature and source of those citations as that may inform them on specific fields of enquiry they could target and so create a niche focus that distinguishes their journals from the rest, so aiding them in combating the competitive environment in which their journals are located.

Many believe, and have demonstrated that impact as measured by citations, particularly in the composite form of impact factors, such as used by the *Thomson Reuters SSCI* and *SCOPUS SCImago*, is biased. Such metrics favour publications in journals with shorter lead times to publication; favour larger fields over smaller ones; favour journals with a pattern of rapid citation during a short period ('hares') over journals with a pattern of steadily increasing citations over a long period ('tortoises'); and disadvantage interdisciplinary research. On balance, citation analysis is more suited to the physical and social sciences than to the arts and humanities (Garfield, 2005; Bornmann *et al.*, 2008; Vanclay, 2009; Miller, 2011). Similar criticisms can be applied to other journal rankings lists which have included some subjective adjustment in their construction (Rosenstreich & Wooliscroft, 2009; Pontille & Torny, 2010). Nevertheless, despite the inherent flaws in these artefacts, citation analysis, either in isolation or, embedded within the rubric of impact factors and journal rankings, can serve at least two potentially useful purposes: enabling identification of the relatively higher cited outlets across publications in a distinct and narrowly defined area of research; and, by allowing researchers to identify who is using their output, where and for what purpose, by analysing where the citations are being made.

As mentioned above, there is a major difference between much of accounting research and accounting education research: the usefulness of

¹ Accessed 9 July 2015 at <http://thomsonreuters.com/social-sciences-citation-index/>

² Accessed 9 July 2015 at www.scimagojr.com

accounting education research will typically not be located primarily in its benefits for further research, but in the application of its findings everyday in the teaching of accounting by faculty in a wide range of institutions, contexts and countries. Such impacts cannot be measured through citation studies, impact factors such as the *Thomson Reuters SSCI*, or the more subjective national journal rankings lists. Consequently, any discipline-wide citation-based analysis will under-value the impact of not just *accounting* education research but of *all* subject-specific education research, irrespective of the discipline in which it is located.

The size of the research community clearly affects the number of citations an article receives and the number of researchers in any discipline publishing education-related research is considerably less than those conducting discipline-related research. There are not, for example, scores of researchers worldwide writing research papers about how best to *teach* capital markets, but there are scores of scholars *investigating and writing* capital markets-focused research papers. Consequently, when comparing citation data for accounting education with, for example, research into financial regulation, auditing, activity-based costing, earnings management, etc., all other things being equal, a relatively lower level of citations would be expected for accounting education research because the field is considerably smaller. In addition, not only is the community of scholars researching accounting education small it is fragmented into specialist sub-areas, such as learning styles, ethics, assessment, use of information technology, curricula, faculty issues, performance indicators, graduate progression, and a broad range of other intriguing and developing areas, resulting in any paper published on accounting education being of direct use to the research of only a sub-set of the community of accounting education researchers. Support for this can be found in the latest (2013) *Scopus SCImago* analysis (SCImago, 2007) of average citations per paper in a 3-year period which reveals that, on average, papers in mainstream generalist journals, such as *Accounting and Business Research*, *Journal of Business Finance and Accounting*, and *Accounting, Auditing and Accountability Journal* are cited between 50 and 95 per cent more than the most cited of the specialist accounting education journals. In the previous (2012) listing, a 2-year citation base was used and the resulting factor was even more pronounced, suggesting that citations in this field are also more typical of a 'tortoise' than a 'hare' (Vanclay, 2009, pp. 3-4) compared to more mainstream fields of research.

A further issue highlighted in Marriott *et al.* (2014) relates to the difference in treatment by journals of classroom material papers, such as teaching cases and teaching notes, as compared to research papers. For many years, the former appeared to being treated as 'second class' citizens in this field, something that was done, and published, but not of primary interest to researchers. Intuitively, because classroom resource papers are primarily intended to inform teaching not research, it seems likely that the former will not be cited as much as the latter but, so far as can be determined, no study has been conducted into whether or not this is the case. To fill that gap in our knowledge, this study has as its first research question:

1. Is there a difference in the level of citations of teaching resource papers compared with those of research papers in accounting research?

This research also seeks to complement the findings of Marriot *et al.* by seeking to identify and interpret the citation-based impact profile of accounting education research, both within and outwith the community of scholars of accounting education. In doing so, it addresses the following research questions:

2. What is the pattern of citations for papers published in these specialist journals?
3. What is the impact upon the work of other researchers of papers published in these specialist accounting education journals?
4. To what extent do the communities of accounting education researchers appear to interact with each other's work?
5. What guidance do the results of this analysis provide for accounting education researchers?
6. What guidance do the results of this analysis provide for accounting education journal editors?

THE STUDY

Marriott *et al.* (2014) presented an analysis of publications in the six principal accounting education journals.³ The purpose of that paper was to provide insight and direction for future accounting education research, identify key areas of interest, note those where less activity had occurred and, overall, to formulate a map of the nature and characteristics of research in this field worldwide. Measuring the impact of research was not considered in that study, but it is becoming increasingly important for tenure, promotion, salary review, research budget allocations and, in some parts of the world, decisions on government funding of universities. This was the motivation for the present study. The data set used by Marriott *et al.* was adopted as doing so maintains consistency with the timeframe of that study, so enhancing the synergy between the two studies, and allowing anyone reading one to enrich their understanding of the other. To that end, the base period for this study is the same as that selected by Marriott *et al.*

Before undertaking the present study, two key decisions had to be taken: the research approach to adopt and what data to select. Citation analysis was selected on the basis that *[c]itation of a document (author, journal, etc.) reflects the merit (quality, significance, impact) of that document (author, journal, etc.)* (Nicolaisen (2007, p.697). While citation analysis is inherently problematic – see, for example, Monastersky (2005); Rosenstreich & Wooliscroft, (2009); Vanclay (2009) – it may provide at least a partial indicator of the usefulness of research publications, particularly within a narrow field of endeavor such as accounting education.

So far as the data to use was concerned, the timeframe selected for the study sought to ensure that sufficient time had evolved since publication to achieve external validity and comparability of the data gathered: too short, and the impact is likely to be heavily biased towards the 'hares', and undervalue the 'tortoises' (Vanclay, 2009); too long, and the data lacks relevance. While a two-year period has

³ *Issues in Accounting Education; Journal of Accounting Education; Advances in Accounting Education; Global Perspectives on Accounting Education; the Accounting Educators' Journal; and Accounting Education: an international journal.*

become established as the norm when citations are utilized to produce impact factors, this has been criticized as being too short or too soon after publication such that the data gathered, “*is likely to provide an unrepresentative snapshot of impact*” (Rosenstreich & Wooliscroft, 2009, p. 229). In addition, the average age of citations for business and economics is 10 – 11.5 years (Nederhof, 2006) and, while it may therefore be considered likely that citations would take time to appear, there was the additional issue that the data being collected related to a fragmented specialist area, wherein the existence of various specialist sub-areas of interest with relatively little overlap between them (such as faculty issues, graduate destinations, curricula, learning styles, assessment, and predictors of success) limited the likely volume of citations that would be observed.

The trade-off adopted in this study was to utilize the same timeframe as Marriott *et al.* (2014) and gather citations for the six years from 2006-2011 to papers published in the six accounting education journals during the first year of their study: 2005.⁴ *Google Advanced Scholar* was selected as the source for the citations used, with duplicate versions of papers combined and all self-citations eliminated, because it, “*is likely to provide a more comprehensive source for citation-based journal rankings for the accounting discipline*” (Rosenstreich & Wooliscroft, 2009, p. 233) and because it includes details of citations to articles in all six of the specialist accounting education journals. The other principal alternatives, *Thomson-Reuters Journal Citation Reports*, *Web of Science*, and *Scopus* do not. In addition, the same database and search engine is used in Harzing’s *Publish or Perish*⁵, although in contrast to the present study, Harzing neither facilitates the consolidation of the duplications nor the elimination of the self-citations found in its sources.

The rest of this paper is organized as follows: the next section considers the background to this study. This is followed by a section which presents and discusses findings from the citation analysis, including discussion resulting from the formulation of exploratory impact factor metrics designed to illuminate and aid interpretation of the position identified. This is followed by details of the demographics of the citations found: both in terms of the focus and nature of the journal publications in which they appear, and geographically. The final section contains broader conclusions arising from the study and their limitations, along with recommendations and guidance for authors, editors, and publishers.

BACKGROUND

Table 1 presents the number of papers published in the six journals during the two periods of interest: *Issues in Accounting Education* (IAE); *Accounting Education: an international journal* (AE); *Journal of Accounting Education* (JAcEd); *Advances in Accounting Education* (AAE); *Global Perspectives on Accounting Education* (GPAE); and the *Accounting Educators’ Journal* (AEJ).

⁴ While 2005 was selected as the year of study, being the earliest year covered in the Marriott *et al.* study, there was an exception made for the *Accounting Educators’ Journal*: the 7 articles it published in 2006 were included because it did not publish any articles in 2005. For convenience, the year of publication of all the articles in this study is described as ‘2005’ throughout this paper.

⁵ The database used in both Harzing’s *Publish or Perish* report (2007) and the citation analysis software (<http://www.harzing.com/index.htm>: Accessed 9 July 2015).

Table 1: The number of papers published in the specialist journals in 2005, and 2006-2011

	<i>IAE</i>	<i>AE</i>	<i>JAcEd</i>	<i>AAE</i>	<i>GPAE</i>	<i>AEJ</i>	<i>Total</i>
Number of papers published in 2005	20	19	15	15	7	7	83
Number of papers published 2006-2011	137	89	55	39	23	20	363
Total papers published 2005-2011	157	108	70	54	30	27	446

When Marriott *et al.* (2014) conducted their study of publishing patterns in specialist accounting education journals, they distinguished between ‘main’, i.e. research-focused papers and teaching materials and found that of the 446 papers published during the seven years, 2005-2011, 56 per cent (250) were research-focused and 44 per cent (196) were teaching material-focused (p. 273). It is widely believed that papers with a focus upon teaching materials are not generally cited but, as mentioned above, so far as can be determined no-one has previously investigated whether or not this is the case. The two principally used citation-based indices, *Thomson Reuters SSCI* and *Scopus*, do not distinguish between these forms of papers. If it is the case that teaching material papers are less cited than research papers, this is something which journals in this field that seek to establish high citation profiles would be well-advised to take into account, and some may currently be doing so. *JAcEd*, for example, appears to embrace the benefits of publishing review papers, a type of paper recognised to boost citation ratings – see, for example, Monastersky (2005).

Accordingly, with a view to identifying whether there is a difference in the citation patterns of these two distinct types of publication, this study adopts the same approach as Marriott *et al.* (2014) in distinguishing between these two forms of scholarship. Table 2 presents a breakdown of the publications in the six specialist journals in 2005, by journal and by type of scholarship.

Table 2: Research-focused papers versus Teaching materials-focused papers published in the specialist journals in 2005

	<i>IAE</i>	<i>AE</i>	<i>JAcEd</i>	<i>AAE</i>	<i>GPAE</i>	<i>AEJ</i>	<i>Total</i>
Research	8	16	7	8	3	5	47
Teaching materials	12	3	8	7	4	2	36
<i>Total</i>	20	19	15	15	7	7	83

The citation analysis presented and discussed in the following sections of this paper separately considers these two types of papers and then considers the patterns of citations during the following six years, 2006 to the end of 2011.

THE CITATION ANALYSIS

Table 3 presents a comparison between the total citations for each of the two types of articles. It reveals that research papers were cited on average three times more often than teaching materials papers.

Table 3: The overall pattern of six years of citations of research papers versus teaching materials papers published in 2005

	Number of Research papers in the 2005 volume	Citations		Number of Teaching materials papers in the 2005 volume	Citations	
		Average citations per paper	Total citations		Average citations per paper	Total citations
<i>Issues in Accounting Education (IAE)</i>	8	24.50	196	12	4.50	54
<i>Accounting Education: an international journal (AE)</i>	16	8.00	128	3	3.33	10
<i>Journal of Accounting Education (JAcEd)</i>	7	10.43	73	8	2.00	16
<i>Advances in Accounting education (AAE)</i>	8	2.38	19	7	2.14	15
<i>Global Perspectives on Accounting Education (GPAAE)</i>	3	2.67	8	4	0.00	0
<i>Accounting Educators' Journal (AEJ)</i>	5	1.00	5	2	1.00	2
	47	9.13	429	36	3.28	118

Further review of this data revealed that 34 of the 54 citations received by the 12 teaching material papers in *IAE* were for three of the papers. The other nine papers were cited an average of 2.22 times per paper. Similarly two teaching materials paper published in *JAcEd* were cited a total of 21 times. The other 6 papers were cited an average of 2.00 times per paper; and if the most cited teaching materials paper published in *AE* is set aside (8 citations), the other two teaching materials papers in that journal were cited once on average. If these six outliers are removed from the calculation of the overall average of citations per teaching materials paper, the average citations per paper falls from 3.28 to 1.67. As shown in Table 3, research papers were cited, on average, 9.13 times. Thus, the answer to the first research question is that there is a difference in the level of citations of teaching material papers compared with research papers in accounting education, and the difference is so marked that any subsequent citation analysis in this study was restricted to those papers with a research focus. The rest of this paper explores the patterns of those citations.

Research paper citations

The pattern of citations for research papers published in each journal is shown in Table 4. The overall analysis is presented and is then broken-down to distinguish between citations in journals and citations in other outlets, such as books, conference proceedings, theses, and dissertations.

Table 4: The overall pattern of citations of 2005 research papers (2006 – 2011)

	Number of research papers in the 2005 volume	All citations		Citations in journals		Other citations	
		Average citations per paper	Total citations	Average citations per paper	Total citations	Average citations per paper	Total citations
<i>Issues in Accounting Education (IAE)</i>	8	24.50	196	15.88	127	8.63	69
<i>Accounting Education: an international journal (AE)</i>	16	8.00	128	5.13	82	2.94	46
<i>Journal of Accounting Education (JAcEd)</i>	7	10.43	73	6.29	44	4.01	29
<i>Advances in Accounting education (AAE)</i>	8	2.38	19	1.63	13	0.75	6
<i>Global Perspectives on Accounting Education (GPAAE)</i>	3	2.67	8	2.33	7	0.33	1
<i>Accounting Educators' Journal (AEJ)</i>	5	1.00	5	0.60	3	0.40	2
	47	9.13	429	5.87	276	3.26	153
			100%		64.3%		35.7%

Table 4 shows that research papers in three of the journals – *IAE*, *JAcEd*, and *AE* – are cited more often than those in the other journals, and clearly significantly so, and are cited noticeably more frequently in both academic journals and, particularly in the case of *IAE* and *JAcEd*, in outlets other than academic journals. The most heavily cited papers by a noticeable margin are those published in *IAE*. In a research environment where citations look likely to become increasingly important, this statistic may be a significant concern to the other journals, especially for the next most cited journals *JAcEd* and *AE*. This is particularly so if, as seems possible, in pursuit of higher citations for their work, authors elect to play the citation game and target *IAE* as their first choice of specialist publication outlet.

Citations with and across the specialist journals

Publishing research that is useful to a given community of researchers should be of key concern to authors in any field. Citations within and across these six specialist journals are likely to give the clearest indicator of the extent to which published papers in this field are considered useful by the research community of accounting educators. Therefore, after a brief comparison between citations from these journals and those from other journals, the focus of this paper will be largely upon citations in and between these journals. Citations from outside this set will be returned to later in this paper.

While Table 4 looked at overall citations and compared citations from journals with citations from all other sources, Tables 5 and 6 focus solely upon citations in journals. Table 5 presents the citation data for each of the specialist journals focusing upon (a) citations received from papers published in *all* journals and (b) citations received from papers published the six specialist accounting

education journals. Table 6 focuses upon citations made in papers published in the six specialist journals, and shows the citation pattern among these journals.

Table 5: Citation in journals to the 47 research papers published in 2005 during the following six years (2006-2011)

Journal	Number of research papers published in 2005	(a) Total citations in all journals	(b) Total citations in specialist journals	% of journal citations in specialist journals
<i>IAE</i>	8	127	27	21.3
<i>AE</i>	16	82	23	28.0
<i>JAcEd</i>	7	44	14	31.8
<i>AAE</i>	8	13	7	53.8
<i>GPAE</i>	3	7	1	14.3
<i>AEJ</i>	5	3	1	33.3
	47	276	73	26.4

As shown in Table 5, the citations from journals are predominantly in journals that do not specialise in accounting education. With the single exception of *AAE*, none of the specialist journals received more than one-third of its citations from the specialist journals. This citation pattern suggests that at least five of these journals have a surprisingly high relative usefulness value for authors publishing in journals outside accounting education – almost five times more in the case of *IAE*. Even taking into account that there are a large number of education journals in other disciplines from which citations may arise, it is surprising that less than one-third of the citations from articles in journals are from scholars publishing in the six specialist journals in the discipline. This could suggest that the community, as represented by the authors publishing in these six specialist journals, is making a lower than expected use of the papers these journals publish, something that will be returned to in the discussion relating to Table 6. Alternatively, perhaps these publications in accounting education journals are of considerably more relevance to those engaged in other lines of enquiry than many would have anticipated.

The pattern here for *AAE* is strikingly different with over half its citations from journals within this specialist group. The lack of citations to research articles from outside this community suggests that, compared with the others, *AAE* is not widely read elsewhere, something which may be largely the result of its format as an annual hardback book only available through traditional channels and, uniquely among all these specialist journals, unavailable electronically during the period of this study through the popular e-journal databases. The very low level of citations for *GPAE* and *AEJ* suggests that these outlets are seldom used to inform research activity in this or any other field. That these journals are the only exclusively online ones in the group merits notation.

The pattern of citations among the six specialist journals is shown in Table 6.

Table 6: Citations to the 47 research papers published in 2005 in each of the six specialist journals during the following six years (2006-2011)

Number of articles published during 2006-2011 in each journal (total = 363) ⁶ and the number of citations in those articles to papers published in each of the specialist journals.							
Number of research papers published in 2005 in:	<i>IAE</i> (137)	<i>AE</i> (89)	<i>JAcEd</i> (55)	<i>AAE</i> (39)	<i>GPAE</i> (23)	<i>AEJ</i> (20)	Total citations in the specialist journals
<i>IAE</i> (8)	2	13	1	7	2	2	27
<i>AE</i> (16)	1	17		2	1	2	23
<i>JAcEd</i> (7)	2	6	1	1		4	14
<i>AAE</i> (8)		1	2	4			7
<i>GPAE</i> (3)						1	1
<i>AEJ</i> (5)		1					1
	5	38	4	14	3	9	73

Table 6 reveals what may be a uni-directional utilization of this research between *AE* and the other journals. More than half (38) of the 73 citations in papers published in these specialist journals appeared in articles published in *AE*. Yet, in the six years from which the citations are drawn, *AE* published only 25 per cent (89) of the 363 papers published in the six journals. Furthermore 55 per cent of citations to the six journals from papers in *AE* were to one of the other five. Thus, authors who published in *AE* cited papers in the six specialist journals much more than the 16 research papers in *AE* were cited by authors publishing in the other specialist journals; and, compared with the data shown for the other five journals, authors who published in *AE* made more use of papers published in the other specialist journals and, in particular, *IAE*.

It is also noticeable from Table 6 that authors of papers in *AE* cited a greater number of the papers published in the journal in which they were publishing their work than did those authors who published in any of the other five journals. The contrast is most prominently presented in the citations of the scholars publishing in *IAE* – by far the biggest of the specialist journals – who, in authoring 137 articles, only cited any of the 47 research papers from 2005 five times. This lack of citations from *IAE* is most marked with respect to *AAE*, which received citations from articles published in *AE*, *GPAE*, and *JAcEd*, but no citations in papers published in *IAE*. This is particularly mystifying as the papers published in *AAE* are not greatly different in style and focus from those published in *IAE*. Perhaps *AAE*'s non-availability electronically during the period of this study and its annual hard-back format contributed to this situation but, these potential barriers do not appear to prevent citations from authors publishing in the other journals.

⁶ All research papers and all teaching materials papers have been included as they are all potential sources for citations of the 2005 research papers.

The data shown in this table presents an interesting contrast to the position noted by Apostolou *et al.*, (2001). These authors stated, in their review of accounting education papers from 1997 to 1999, that, *we continue to observe that most citations are to work appearing in accounting education journals* (p. 44). Clearly believing that this implied a lack of awareness of the wider literature, Apostolou *et al.* recommended that accounting education researchers should consider making citations to papers published in mainstream education journals. Perhaps this is what authors are now doing, effectively ignoring what is published within this specialist field. The advice of Apostolou *et al.* may have been taken too literally.

As shown above, the citation analysis revealed differences in the pattern of citations in the six specialist journals however, it is generally accepted that *where a quantitative measure of impact is appropriate, ... formulae to analyse citation data provide a better indication of impact than a simple count of citations* (Rosenstreich and Wooliscroft, 2009, p. 229). Thus, in order to more fully compare these different patterns, exploratory impact factors were developed and used in the next phase of this study.

Exploratory impact factors

While impact factors have been in use for many years, having first been proposed in 1955 (Garfield, 2005), they are currently dominating the on-going debate concerning the use of journal rankings lists in accounting and finance – *see*, for example, Morris *et al.* (2011); Hussein (2011, 2012); Sangster (2011, 2015); Hoepner & Unerman (2012); Hussain, Liu, Wang, and Zuo (2015); McGuigan (2015); Moore (2015); Moya, Prior, and Rodrigues-Perez (2015); Tourish & Willmott (2015). An impact factor *measure[s] the average number of citations to articles* (Miller, 2011). It is *a simple method for comparing journals regardless of size or citation frequency* (Garfield, 2005, p. 3). Given the nature of the present study, four exploratory journal impact factors were devised in order to analyse the pattern of citations found. We considered:

- (1) The extent to which the research papers published in each specialist journal were cited in any of the six specialist journals;
- (2) The extent to which the research papers published in each specialist journal were cited by papers published in the same journal;
- (3) The extent to which the research papers published in each specialist journal could be considered generally useful for other scholars,
- (4) The extent to which the general disciplinary community is aware of the specialist literature.

The results of this analysis are presented in Table 7:

Table 7: Four *Exploratory Journal Impact Factors* derived from citations in papers published in the specialist journals 2006-2011

	<i>IAE</i>	<i>AE</i>	<i>JAcEd</i>	<i>AAE</i>	<i>GPAE</i>	<i>AEJ</i>	<i>Total</i>
Number of research papers published in 2005	8	16	7	8	3	5	47
Papers published during 2005-2011	137	89	55	39	23	20	363
Number of citations received to papers published in 2005 from the 446 papers published in the six specialist journals during 2006-2011	27	23	14	7	1	1	73
(1) <i>Relative Specialist Journal Impact Factor</i> Average citations per 2005 paper from papers published in specialist journals during 2006-2011	3.38 ⁷	1.44	2.00	0.88	0.33	0.20	1.55
Number of citations in papers published in each specialist journal during 2006-2011 to papers in the same journal in 2005	2	17	1	4	0	0	24
(2) <i>Journal Internal Impact Factor</i> Average citations per 2005 paper from papers published in the same journal during 2006-2011	0.25 ⁸	1.06	0.14	0.50	0	0	0.51
Number of citations from papers published in each specialist journal during 2006-2011	5	38	4	14	3	9	73
(3) <i>Usefulness of the accounting education literature</i> The average citations for each of the 47 papers published in 2005 from the papers published in each journal during 2006-2011	0.11 ⁹	0.81	0.09	0.30	0.06	0.19	1.55
(4) <i>Awareness of the accounting education literature</i> Average citations from each of the papers published in each journal between 2006-2011 to the 47 papers published in 2005	0.04 ¹⁰	0.43	0.07	0.36	0.13	0.45	0.20

Impact factor 1: Value within the Specialist Community

As can be seen in Table 7, impact factor (1) shows that papers published in *IAE* are the most influential upon this field of study, with each of the 8 papers published in 2005 receiving an average of more than three citations, almost 70 per cent higher than that of the next most influential journals; and *GPAE* and *AEJ* appear to have a very little influence upon research activity in this field. However, *IAE* published relatively few (17 per cent) of the research papers published in the field, which could suggest that it is the journal authors consult rather than searching for relevant material across the six journals.

Impact factor 2: Value within the Publishing Journal

Shifting from the impact of papers published in a specific journal to all the journals in the field, impact factor (2) reveals that in the case of citations to papers published in the same journal, papers published in *AE* receive more than twice the level of citation of the second highest ranked journal, *AAE*, and four times more internal citations that *IAE*. However, the low scores shown here do raise an interesting question: does an average of just over one citation for these papers published in *AE* from papers published in the same journal during the following six years indicate that papers have a significant influence upon research, thinking or

⁷ 3.38 = 27 divided by 8.

⁸ 0.25 = 2 divided by 8.

⁹ 0.11 = 5 divided by 47.

¹⁰ 0.03 = 5 divided by 137.

practice? It would, perhaps, be easy to argue that it does not, but at least research in *AE* is visible to its readers.

On the basis of the first two impact factors, authors publishing in the other journals tend to cite papers published in *IAE*, whereas those publishing in *IAE* do not; and those publishing in *AE* cite papers in *AE* far more than they cite papers published in each of the other five journals.

Impact factors 3 and 4: Broader dimensions of scholarly value

These two impact factors present two alternative views of how much the authors publishing in each journal utilised the literature from 2005. Both reveal that authors publishing in *AE* utilised the specialist literature from 2005 more than authors who published in the other five journals: the 47 papers were cited 38 times by papers published in *AE*, an average of 0.81 citations per paper; and these 38 citations equates to 0.43 citations from each of the 87 papers it published between 2006-2011. While authors publishing in two of the smaller journals, *AEJ* and *AAE* also made some use of this literature, the authors who published in the other three specialist journals largely ignored it, either because it was irrelevant to their research or because they were not aware of it. Given the slow changing focus of papers published in these journals and the overlapping foci across them, it seems more likely that the latter was the case.

Discussion of the implications of the citation and impact factor analysis

While the number of citations and number of papers published during this period is relatively small, and certainly too small for any statistical analysis of significance, there is a clear pattern visible from these exploratory impact factors that cannot be ignored. It is generally assumed that one of the important things to do in order to publish research is to cite relevant previous work in order to show that the research is embedded in the literature and, further, that it is strategically wise from a potential publication perspective to cite papers published in the journal that is being targeted. The latter is clearly not the case with any of these journals: the within-journal citations for the US-based publications are all very low. Authors publishing in *AE* appear to read across the range of journals more than any others, indicating that they are, perhaps, likely to be aware of a wider range of the relevant literature. Taken overall, the differences in citation behaviour are striking and indicate very different patterns of the use of literature across the specialist journals.

In addition, as *AAE*, *GPAE* and *AEJ* all publish papers on topics that have also been written about in *IAE*, *AE*, and *JAcEd* this suggests that there is a preference to cite articles in these three over the rest, something that Table 5 suggests is also the case for non-accounting education researchers. Perhaps the fact that *AAE* is less accessible and *GPAE* and *AEJ* are online journals may influence the extent to which they are being cited. Alternatively, perhaps there is a perception among authors in this field that papers published in these journals are of a lower quality. Whatever the explanation, it is clear that accounting education researchers are citing the papers in those journals considerably less than they are citing papers in *IAE*, *AE*, and *JAcEd*. There therefore appears to be two-tiers of journals: those that scholars both within and beyond the community of accounting education researchers are more likely to cite (*IAE*, *AE*, and *JAcEd*) and those largely cited only by members of that community

(*AAE*, *AEJ*, and *GPAE*). Thus, while the accounting education community has these six specialist outlets, the evidence from the citations appears to suggest that just three of the journals may be sensible places to publish research if authors wish it to be read by both fellow accounting education researchers and non-accounting education researchers.

Having considered the impact of these papers upon the community of accounting education scholars and beyond, the next section considers the demographics of the citations, from the perspective of the subject area, the focus of the outlets in which they appear, and from the perspective of the location of the citing authors.

THE SOURCES OF THE CITATIONS

Citations in academic journals

As shown in Table 4, 276 (64.3 per cent) of the 429 citations of the research papers were in academic journals. The journals in which 248 (89.9 per cent) of these 276 citations were published were identified^[11] and classified as either (a) education journals or (b) non-education journals. The distribution of these 248 citations across the six journals is shown in Table 8.

Table 8: Citations in education journals –v- non-education journals

Papers in:	Total	Education		Non-education	
		#	%	#	%
<i>IAE</i>	114	73	64.04	41	35.96
<i>AE</i>	71	43	60.56	28	39.44
<i>JAcEd</i>	41	26	63.41	15	36.59
<i>AAE</i>	12	8	66.67	4	33.33
<i>GPAE</i>	7	4	57.14	3	42.86
<i>AEJ</i>	3	1	33.33	2	66.67
Total	248	155	62.50	93	37.50

From Table 8, it can be seen that over one-third (37.50%) of all journal citations are in journals not specialising in education. This suggests either that there are many journals which do not specialise in education that may be interested in publishing education papers, or that these papers are being used to inform papers that are not primarily papers about education. The latter seem less likely and the former is at odds with the perception held by the authors of the present study that it is relatively difficult to publish accounting education papers outside the six specialist accounting education journals. However, given the paucity of papers published in the six journals that explicitly include theory of pedagogy and theory in general (Marriott *et al.*, 2014), the interest outside the specialist community is not based upon the use or development of theory. Tables 9 and 10 examine each of these two sources of citations in more detail.

^[11] The other citations were in journals for which no information could be found and whose titles so far as they were identified gave no indication of whether or not they specialized in education.

Of the 155 citations in education journals shown in Table 8, less than half (73, see Table 6) were in the six specialist accounting education journals. As shown in Table 9, the remaining 82 citations appeared in a mix of cross-disciplinary journals and discipline specific journals.^[12]

Table 9: Citations in other education journals, cross-disciplinary –v– discipline-specific

Journal focus	<i>IAE</i>	<i>AE</i>	<i>JAcEd</i>	<i>GPAE</i>	<i>AAE</i>	<i>AEJ</i>	Overall	
Cross-Disciplinary with focus on:								
Education	30	13	9	3	0	0	55	
Ethics	1	0	0	0	0	0	1	
Textbooks	0	0	1	0	0	0	1	
Total cross-disciplinary	31	13	10	3	0	0	57	70%
Discipline-specific	15	7	2	0	1	0	25	30%
Total	46	20	12	3	1	0	82	100%

Seventy per cent of citations in other specialist education journals are made in cross-disciplinary journals. Thus, research in accounting education published in the six specialist journals and, especially in *IAE* and *AE*, is being used in research by both discipline-specific education researchers operating in disciplines other than accounting and, by those publishing in non-discipline-specific education outlets. In the UK, the only relatively highly-ranked education journal in the *ABS Journal Quality Guide* that publishes articles on pedagogy will not accept articles focusing upon discipline-specific research, presumably because it is believed that such articles are not of interest to its readers, something that is not evident in the data presented in Table 9. Perhaps the editors of this and other non-discipline-specific education journals that adopt the same policy may wish to consider this finding when they next receive a submission of a discipline-specific paper.

The sources of the 93 citations in non-education journals shown in Table 10 similarly shows noticeable use of accounting education publications beyond the obvious boundaries of accounting and finance.

^[12] In this context the cross-disciplinary journals are defined as those that cover generic education issues but do not appear to be aimed at staff in particular disciplines. Papers published in specialist education journals are included in this category as the material they publish can generally be applied across many disciplines.

Table 10: Citations in non-education journals

	<i>IAE</i>	<i>AE</i>	<i>JAcEd</i>	<i>AAE</i>	<i>GPAE</i>	<i>AEJ</i>	Overall	%
Accounting and Finance	11	16	7	1	0	0	35	37.6
Non-Accounting and Finance: Ethics	18	1	0	2	0	0	21	22.6
Business and Management	10	2	4	0	0	2	18	19.4
Computer Science, Information Science, Communication, Psychology, Law, etc.	2	9	4	1	3	0	19	20.4
Total non-accounting and finance	30	12	8	3	3	2	58	62.4
Total	41	28	15	4	3	2	93	100.0

As shown above, over 60 per cent of citations in non-education journals were made in journals of disciplines other than accounting and finance. Perhaps surprisingly, Business and Management was not the next most common source for these citations, that place being taken by journals on ethics. However, ethics is a subject which has become increasingly popular among accounting researchers over the past few years and on which topic a number of papers have appeared in *IAE*, reflecting its perceived prominence over the other specialist journals as a source for material relating to that topic.

The demographics of the citations

Editors of each of the three leading specialist journals, *IAE*, *AE*, and *JAcEd* have all, at some point, announced that their journal has an international focus and that they welcomed international submissions. It would be of interest if this were also the case for the readership of these journals. In the absence of any such data, citations of papers in these specialist journals were analysed in order to determine the country in which the authors were located. The result indicates that the authors who cited these papers were based in 37 different countries, virtually double the number of countries in which the authors of the cited papers are based (Marriott *et al.*, 2014). The countries with the most instances of an author citing one of the 47 specialist journal research papers published in 2005 are shown in Table 11.

Table 11: Location of each author who cited a research paper in one of the six journals^[13]

	Citations	%
(1) USA	173	37.69
(2) Australia	68	14.81
(3) UK	32	6.97
(4) Canada	25	5.45
(5) Hong Kong	18	3.92
(6) New Zealand	16	3.49
(7) Spain	13	2.83
(8) Germany	10	2.18
(9) Finland	11	2.40
(10) Malaysia	12	2.61
(11) Holland	9	1.96
(12) Brazil	8	1.74
(13) Turkey	9	1.96
(14) Japan	8	1.74
(15) South Africa	6	1.31
(16) Belgium	5	1.09
Others (21)	36	7.84
	459	100.00

Similarly to the findings of Marriott *et al.* (2014) concerning authorship, Table 11 shows that the majority of these papers were cited by authors living in countries where English is the first language. However, many people in countries where English is not the first language are also reading and using these papers. Within the English-speaking countries, Australian authors cited more than twice as many of these papers than UK-based authors despite the existence of almost 60 per cent more authors from the UK (78) than from Australia (56) Marriott *et al.* (2014, p. 271). This situation is also found when Australian citations from Table 11 and Australian authorship data from Marriott *et al.* (2014) is compared to that of the other more productive English-speaking countries in this field such as the USA, Canada, and New Zealand.

THE MAIN FINDINGS AND THEIR IMPLICATIONS

The purpose of this section is to recapitulate the main findings of the empirical work. Each of the six research questions which were identified at the start of this paper are considered below.

Research Question 1 – Is there a difference in the level of citations of teaching resource papers compared with research papers in accounting research?

As reported in Table 3, there is a clearly significant difference. Research papers are cited as much as five times more than teaching resource papers. Anyone seeking citations for their work would be ill advised to focus on publishing teaching resource papers.

^[13] Where a citation was from a source with multiple authors, each country was given equal weighting, hence the total of 459 being greater than the total number of citations, 429.

Research Question 2 – What is the pattern of citations for papers published in these specialist journals?

The lack of citations to all six of these journals by their own authors was very surprising. This might call into question the usefulness of the papers they publish, at least from an accounting education research perspective. We cannot comment upon the value of the research when it is implemented in the classroom, which is clearly a limitation of any citation based measurement of impact. Perhaps authors should look more closely at what has already been published in the specialist journals before embarking on a new research project and, having familiarised themselves with the literature, use it productively.

These findings confound Apostolou *et al.*'s (2001) perception that accounting education researchers rely mainly upon sources in the specialist journals. While Apostolou *et al.* called for accounting education researchers to extend their sources beyond those they were using, it seems inconceivable this recommendation has led to such a major shift from the citation patterns of the late 1990s to those identified in the present study. More likely, the citation patterns found in this study were present in the 1990s, but were more difficult to detect without a systematic analysis.

The pattern of citation of publications in *AE* demonstrated that its authors were reading articles in the other specialist journals, and papers in *AE* itself, more than the authors of articles published in the other five journals. The reason this is true extends beyond the scope of this analysis.

Research Question 3 – To what extent do the communities of accounting education researchers appear to interact with each other's work?

There appears to be relatively little interaction by accounting education researchers with the work that has been published in this field. It could be argued that 2005 was an atypical year; that papers published that year were unusually lacking in relevance to the community of accounting education researchers. However, after inspecting these papers and comparing them with those published in other years, this does not appear to have been the case. The papers cover a range of topics and research methods that does not appear, in any sense, unusual. It seems that, generally, we may simply not utilise the work of our community when undertaking our accounting education research. From our perspective as specialists in accounting education research, this proved to be the most disappointing aspect of our findings.

The implications of this situation for scholars is obvious – their work receives relatively few citations and their findings are ignored by other accounting education researchers. Perhaps this arises because much of the accounting education research that is published is carried out as a secondary interest of researchers whose main interest (and therefore reading) is in their other ('main') area of research. This is a situation likely to be exacerbated by an undervaluing of specialist accounting education research by those whose judgement is guided by citations-based journal ranking lists. Clearly there are circular (or death spiral) effects here that, if not recognised and addressed, could have a dysfunctional impact upon accounting education research, our discipline, and our future students.

The low level and parochiality of citations from within this group of journals suggests that there is likely to be a great deal of repetition in the studies they publish, something which, if true, does little to increase the perceived quality of these publications. The pragmatic solution is for editors to require authors to include citations to published work from these specialist journals, particularly from the one in which their papers will appear. From an ethical perspective, this is an approach that most editors would resist, and is certainly not one that any of the editors of these six journals has ever been known to adopt. However, given the increasing importance of citations for both authors and journals, the citation patterns identified in this study reveal a situation that cannot be sustained if a healthy and vibrant international community of scholars is to be maintained – low citations means no support for researchers from their departments/schools and, ultimately, the withdrawal of scholars from this field of work.

Research Question 4 – What is the impact upon the work of other researchers of papers published in these specialist accounting education journals?

The fact that papers in the specialist journals were marginally more widely cited (82 citations – Table 9) in non-accounting education journals specialising in education than in the six specialist journals (73 citations – Table 4) was not very surprising – there are many more educational research outlets that do not have an accounting focus than those that do. However, the fact that 30 per cent of these citations were in discipline specific education journals was unexpected and suggests that, not only is some recognisably good work being published within the six specialist journals, there may be scope to explore publishing in some of these outlets that cite this work. It is relatively easy to discover these outlets through *Google Advanced Scholar*. Doing so may open-up opportunities for publication in more highly rated outlets that would not otherwise have been identified or considered.

The worldwide geographical spread of citations shown in Table 11 demonstrates the extensive reach these six specialist journals have established, suggesting that innovations and advances in pedagogic practice within accounting education are being disseminated to a much wider audience than simply the journal readers in the English-speaking regions of the world and the authors from other parts of the world who publish in these six specialist journals. This must reflect upon, at least in part, the drive to internationalise the three leading journals, particularly *AE*, which has had such a mission since its inception in 1992.

Finally, while almost 40 per cent of the citations in journals were in non-education outlets (Table 8), upon analysis these were mainly in predictable disciplines. Nevertheless, the fact that research into accounting education is being cited to such an extent outside the community of accounting education researchers may indicate that the quality of these publications and their usefulness may be considerably higher than those working in the field may appreciate and, therefore, much higher than perceived by the non-education researchers in the home discipline of accounting and finance and, possibly more crucially, higher than shown in impact factors and journal rankings based upon citation data.

Research Question 5 – What guidance do the results of this analysis provide for accounting education researchers?

The findings provide a strong steer concerning the likelihood or not that research published in these journals will be cited. Being aware of the differences in the level of citations across these six journals is likely to lead to an adjustment in journal selection practice among accounting education researchers who are working in an environment where the level of citations is currently considered to be an important variable in any assessment of their performance.

Similarly, there is clearly a problem with the volume of citations of this work which those publishing in the area would be wise to take on board when selecting the sources they use in their research. It would obviously be in the interests of individual researchers if their work was cited more by others in this community. This situation will not be improved overnight – there is no ‘quick fix’. But, if all scholars working in this area were to increase their use of the literature published in this field, all authors and the journals also would benefit from increased recognition and, possibly, increased status if the present focus upon citations in the evaluation of research quality is maintained.

It is also clear from the analysis of the citation demographics that authors publishing in education journals outside these six specialist outlets find the work published in them to be of relevance. Similarly, some scholars publishing in non-education outlets also find this work of value. Accounting education researchers seeking different outlets for their work may find it productive to explore alternatives which, at first glance, appear unlikely to be interested in their work. Once again, from our experience in using *Google Advanced Scholar* in this study, using it to discover who cites work in the area of their research would be a useful place to start such a search and may also identify potential co-authors for cross-disciplinary education studies.

Research Question 6 – What guidance do the results of this analysis provide for accounting education journal editors and publishers?

Serious threats for some of the six specialist journals were identified in this study and editors of the six journals and the members of their editorial teams will find many factors of interest. Journal ranking lists are impacting accounting education research throughout much of the world, with the possible exception of North America, where a distinctly less-unified managerial stance is in place than elsewhere. The literature cited earlier in this paper reveals that those located where journal rankings lists are being used by university managers are finding that this is influencing the publishing pattern of accounting education research and impacting upon the UK’s relative contribution to this research area and to these specialist journals. A cursory examination of the authorship of accounting education papers in more recent issues of the one of these six journals located outside North America (AE) reveals that UK accounting education researchers are no longer publishing at the level they were doing so which was reported in Marriott *et al.* (2014), and anecdotally this appears to be largely as a result of managerial use of journal rankings. The findings of this present study are expected to lead to changes in both the research undertaken and in the publication strategy adopted in both these

countries and elsewhere where similar environmental pressures are being put to bear.

Editors, particularly those who receive a significant proportion of their papers from the UK and Australia, may benefit from having raised awareness of the issues presented in this study. If authors start 'playing the game' with citations, they are likely to switch their attention towards publishing in *IAE* where articles receive many more citations than those published in the other specialist journals. The American Accounting Association (AAA) has succeeded in having *The Accounting Review*, *Accounting Horizons*, and *Auditing: a Journal of Practice and Theory* included in *Thomson Reuters SSCI* and is actively pursuing the inclusion of its other journals, including *IAE* (AAA, 2012). Should it be successful with respect to *IAE*, this could be particularly problematic for both the UK-based *AE* and the USA-based *JAcEd* neither of which is currently included in that index. While all three of these journals are included in *SCOPUS SCImag*, it does not have the status of *Thomson Reuters SSCI*, particularly in continental Europe. For both *AE* and *JAcEd*, inclusion in *Thomson Reuters SSCI* would seem to be imperative if they are to continue to sustain the volume and quality of submissions to which they have become accustomed.

DISCUSSION

This paper found that citations varied a good deal by journal. This takes on greater significance due to the strong geographic patterning of authorship in these journals (see Marriott *et al.* 2014), with *IAE* and *JAcEd* dominated by USA authors and *AE* shared more by authors from the UK and Australia/New Zealand. The relatively lower use identified in this paper of non-US specialist literature by North American researchers may reflect differential occupational socialisation. For example, US accounting doctoral students who write longer dissertations and write them more quickly obtain greater volumes of career publications (Fogarty & Ravenscroft, 1999), which may suggest that these more productive researchers are more experienced in the use of the literature and more aware of the need to spread a wide net in identifying relevant publications and sources. However, as Fogarty & Ravenscroft (1999) found, those that write shorter dissertations tend to be from the more prestigious American universities. Typically, accounting education is not a field those students enter in later life. In contrast, a holder of a North American PhD who wrote a long dissertation would be more likely to be involved in accounting education research and expected to be more aware of relevant literature, but that is not reflected in the findings of this study. Perhaps it is the PhD programmes themselves that are behind the imbalance. North American doctoral programmes are generally recognised as focusing upon the mastery of quantitative methods far more than elsewhere. This may be at the expense of increasing the breadth of student appreciation and use of the extant literature (see, for example, Schwartz, Williams, and Williams, 2005), which would explain why there is less awareness of non-North American specialist literature in the citations of papers published in the specialist North American outlets.

From an overall perspective, the relatively low level of citations identified in this study from within this community to work published in the community journals may be the result of the accounting education specialty being viewed as a 'secondary' interest for many, perhaps most of its participants, something that is

perhaps unusual within the other fields of the accounting discipline. As a secondary interest, individuals may enter it more casually, and with less appreciation of its literature. Further, these individuals might consider accounting education as a 'one-off' since they possess only a single interesting project within this domain. As such, they are less likely to invest heavily in learning the full scope of that which has come before in the literature. Additionally, participation in this niche may be an indulgence for some senior faculty rather than a means by which reputational capital is created. If so, some authors may be less concerned about the citations that their work will earn. *Ceteris paribus*, less conscious referencing practices might be occurring in this subfield. Only future studies of other specialty areas within accounting can inform how typical or atypical accounting education might be in this regard.

This paper assumes that citations are important to accounting faculty, but the reason for this was not explored. Publication productivity is no longer acceptable as an index of merit that speaks for itself. Promotion and tenure processes have grown more dependent upon evidence that scholarly work has had impact, such as is reflected in citations. As a result, in the modern academy research evaluations need more systematic support than can be inferred from journal quality (or, more appropriately, journal reputation), or from the testimony of external letter writers. For these reasons, citations earned by any particular publication are carefully measured. Although no one would argue that the trend is towards more reliance upon citations as a critical metric capable of affecting academic careers, the extent to which there is increased reliance upon citations to differentiate good from poor faculty scholarship is variable, and the speed at which this is developing is less clear. In the USA, for example, the absence of governmental involvement devolves such a practice to lower levels, often down to faculty governance systems in place at individual schools, making any sense of the extent of a shift in this direction problematic at best and in need of further study if it is to become clearer.

CONCLUSIONS

There are clearly limitations in any research of this nature. The first is that any citation based measurement of research impact misses an important aspect of impact of research in this field: the effect of research informed developments in the classroom. Also, the description of the pattern of citations, such as that conducted in this research, is a very labour-intensive process, even when it is limited to a relatively small specialty area. That fact led to the limitation of the research design to material published in 2005. This restriction forms an obvious limitation. We cannot quantify the extent to which 2005 varied from other years. Even if no differences are apparent to the eye, differences in magnitude probably exist. Future research is necessary to systematically evaluate the robustness of the findings. A related limitation arising from the size of the data set is that it eliminates anything other than descriptive statistical analysis. Nevertheless, while this study investigated citations to only 47 papers, that does represent the total population of research papers published by the six specialist journals in a complete calendar year. Furthermore, the study analysed 429 citations made during the following six-year period, enabling a soundly-based and robust analysis of the situation to emerge. Clearly, further research could be conducted on a larger number of papers published over a longer period and investigate citations over a longer period. However, there is

no evidence that the papers from 2005 are systematically abnormal and, therefore, no reason to believe that significantly different results would ensue were such studies undertaken.

This study found what appears to be a low level of citations for accounting education research for the scholars publishing in this field. At a time when citation data is becoming increasingly important this trend is worrying for those faculty who have devoted considerable time to publishing their work, for editors and publishers hopeful of increasing the citation-based ranking of their journals. Further, low citation rates raise concerns as to whether this apparent lack of awareness of what has been published may be impacting negatively upon the quality and usefulness of what is being published. After all, if authors are not reading what has already been published, they are liable to repeat the studies of their predecessors and, most likely, obtain the same results.

Perhaps this situation could not be avoided in a world where there are many possible outlets for disciplinary work. However, accounting education is a relatively small field, allowing no excuse for a lack of awareness of what has been published in it, particularly when so much of this research is readily available online to the majority of the community. The greater the number of papers that are published on similar themes, the larger the pool of articles that may be cited on a particular issue. This may, in fact, be what is at the root of the situation found – too many papers on the same theme that could be cited resulting in low average citations across them all. Whether or not this is the case is not within the scope of this study but is just one of a number of potential questions for future research, as is the possibility mentioned above that part of the reason for the lack of citations may be the result of accounting education research being carried out by scholars for many of whom it is not their primary area of research.^[14]

Other avenues for further research include replica studies looking at publications in other years; similar studies which use the metrics of the Thomson Reuters 2-year and 5-year impact factors; comparative studies contrasting these findings with similar studies in other accounting research areas; questionnaire-based investigations and interview-based studies in which authors are asked about how they identify the research they cite in their work; and interview-based studies involving the editors of these specialist journals.

Finally, this study has revealed a far less integrated research community than we had anticipated but, at the same time, the facets of our findings that lead to this conclusion also indicate what may be done to strengthen and develop this college without walls. Raising the citations of our research is something that many faculty are being managerially driven to achieve. This paper provides some guidance for those seeking to do so that may offer some with the possibility of continuing to

^[14] This is particularly the case in the US where accounting education research is rarely a faculty member's prime area of research, and where most of this research emanates. This is also now primarily the case in the UK. In Australia and New Zealand, this is arguably less the case with accounting education research appearing to be more highly valued in for example, the higher ranking of *IAE* in the ABDC journal ranking list – it is ranked in the second tier, a level of output that is considered managerially acceptable in that environment – which may be one of the factors that contribute to a perceptible increasing publication rate of authors from these countries in this field.

publish accounting education research rather than abandoning it in favour of research in areas where the level of citations and *a fortiori*, journal rankings, are higher. There are also clear messages for the editors and publishers of all the three leading journals in this field (*IAE*, *AE*, and *JAcEd*). *IAE* has problems with the low number of citations of accounting education research in the papers it publishes, particularly to papers that it previously has published. *AE* and *JAcEd* are threatened by the noticeably higher level of citations for papers in *IAE* and the attraction this will have for faculty seeking an increase in the citations they receive for their work. *IAE*'s edge may be attributable to its position as a high-circulation AAA journal, an advantage that is not sustainable unless gains in impact can be demonstrated.

In the interests of the whole community of accounting education researchers it is important that we learn from, and react positively to the challenges that this analysis has highlighted.

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